FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP) OFFICE OF AIR MANAGEMENT

Elkhart Foundry and Machine Company, Inc.
318 South Elkhart Avenue
Elkhart, Indiana 46515

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-8 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: F039-7364-00051	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date: September 26, 1997

First Significant Permit Revision 039-11041-00051	Pages Affected: 4-6, 23, 24, 25, 25a, 25b, 26, 26a, 27, 28, 28a, 28b, 29-33, 37, 39, 40
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-8-3(b)]

The Permittee owns and operates a gray and ductile iron foundry.

Responsible Official:	James E. Patterson
Source Address:	318 South Elkhart Avenue, Elkhart, IN 46515
Mailing Address:	P.O. Box 320, Elkhart, IN 46515
Phone Number:	219-294-2591
SIC Code:	3321
County Location:	Elkhart
County Status:	Attainment for all criteria pollutants
Source Status:	Federally Enforceable State Operating Permit (FESOP) Major Source, under PSD Rules

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

This stationary source consists of the following emission units and pollution control devices:

(a) three (3) vertical channel furnaces, each with a maximum capacity of 2.5 tons of iron per hour;

(b) one (1) charge handling system for the furnaces, with a maximum capacity of 6.0 tons of iron per hour;

(c) one (1) coreless ductile iron furnace, used for the production of ductile iron, with a maximum capacity of 1 ton of iron per hour;

(d) one (1) ductile iron inoculation process with a maximum capacity of 1 ton of iron per hour;

(e) one (1) Slinger pouring/casting and cooling line, with a maximum capacity of 3.6 tons of iron per hour;

(f) one (1) Slinger castings shakeout process, with a maximum capacity of 3.6 tons of iron per hour;

(g) one (1) Basin pouring/casting and cooling line, with a maximum capacity of 0.6 tons of iron per hour;

(h) one (1) Basin castings shakeout process, with a maximum capacity of 0.6 tons of iron per hour;

(i) one (1) British pouring/casting and cooling line, with a maximum capacity of 1.8 tons of

iron per hour;

(j) one (1) British castings shakeout process, with a maximum capacity of 1.8 tons of iron per hour;

(k) one (1) return sand handling system, with a maximum capacity of 6.68 tons of sand per hour, controlled by baghouse B;

(l) one mold sand handling system with a maximum sand handling capacity of 40 tons per hour;

(m) one (1) alkyd sand mixer with a maximum capacity of 19.5 tons of sand per hour;

(n) one (1) Novathane sand mixer with a maximum capacity of 1.5 tons of sand per hour;

(o) one (1) shell core machine with a maximum capacity of 0.085 tons per hour;

(p) shell sand handling with a maximum capacity of 0.085 tons per hour;

(q) one (1) oil sand muller with a maximum capacity of 5.6 tons per hour;

(r) one (1) 96" swing table Wheelabrator shotblast with a maximum capacity of 4.8 tons per hour, controlled by baghouse A;

(s) one (1) 72" swing table Wheelabrator shotblast with a maximum capacity of 1.2 tons per hour, controlled by baghouse A;

(t) two (2) stand grinders, each with a maximum capacity of 0.75 tons per hour;

(u) one (1) no-bake sand reclamation system, with a maximum sand throughput of 10 tons per hour, with particulate matter emissions controlled by the existing dust collector, identified as Baghouse B, exhausting through one (1) stack, identified as Stack B.

A.3 Insignificant Activities

This stationary source also includes the following insignificant activities, as defined in 326 IAC 2-7-1(20):

(1) natural gas-fired combustion sources;

(2) a gasoline fuel transfer and dispensing operation handling less than or equal to 1300 gallons per day;

(3) refractory storage not requiring air pollution control equipment;

(4) packaging lubricants and greases;

(5) filling drums, pails or other packaging containers with lubricating oils, waxes, and greases;

(6) application of oils, greases, lubricants or other nonvolatile materials applied as temporary protective coatings;

(7) cleaners and solvent characterized as follows:
  A) having a vapor pressure equal to or less than 2 kPa; 15 mm Hg; or 0.3 psi measured at 38 degrees C (100 F) or;
  B) having a vapor pressure equal to or less than 0.7 kPa; 5 mm Hg; or 0.1 psi measured at 20 degrees C (68 F); the use of which for all cleaners and solvents combined does not exceed 145 gallons per 12 months;

(8) the following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment;

(9) closed loop heating and cooling systems;

(10) replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment;

(11) heat exchanger cleaning and repair;

(12) paved and unpaved roads and parking lots with public access;

(13) on-site fire and emergency response training approved by the department;

(14) mold release agents using low volatile products (vapor pressure less than or equal to 2 kilopascals measured at 38 degrees C);

(15) a laboratory as defined in 326 IAC 2-7-1 (20)(C);

A.4 FESOP Applicability [326 IAC 2-8-2]

This stationary source, otherwise required to have a Part 70 permit as described in 326 IAC 2-7-2(a), has applied to Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM) for a Federally Enforceable State Operating Permit (FESOP).

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

three (3) vertical channel gray iron furnaces, each with a maximum capacity of 2.5 tons of iron per hour (only two of these three channel furnaces can operate at one time);
one (1) coreless ductile iron furnace with a maximum capacity of 1 ton of iron per hour.
(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emissions Limitations and Standards [326 IAC 2-8-4(1)] [326 IAC 6-3]

D.1.1 Particulate Matter [326 IAC 6-3]

That pursuant to 326 IAC 6-3 (Process Operations), the particulate matter emissions from the melting process shall not exceed 13.62 pounds per hour when operating at a process weight rate of 12,000 pounds per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.1.2 Particulate Matter less than 10 Microns [326 IAC 2-8][326 IAC 2-2]

Pursuant to 326 IAC 2-8 (FESOP) and 326 IAC 2-2 (Prevention of Significant Deterioration), the metal throughput to the melting process shall be limited to 1283 tons per month. The PM10 emissions from the melting process shall not exceed 5.16 pounds per hour. These limits are necessary to limit the total source wide PM10 emissions to 8.25 tons per month. Compliance with this condition will render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) and 326 IAC 2-7 (Part 70 Permits), not applicable.

Compliance Determination Requirements

D.1.3 Testing Requirements [326 IAC 2-8-5(a)(1), (4)][326 IAC 2-1.1-11]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the PM and PM10 limits specified in Conditions D.1.1 and D.1.2 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

D.1.4 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.1.2 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

SECTION D.2 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

one (1) 96" swing table Wheelabrator shotblast with a maximum capacity of 4.8 tons per hour, controlled by baghouse A; one (1) 72" swing table Wheelabrator shotblast with a maximum capacity of 1.2 tons per hour, also controlled by baghouse A;
(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.2.1 Particulate Matter (PM) [326 IAC 6-3]

Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the shot blasting operation shall not exceed 13.62 pounds per hour when operating at a process weight rate of 12,000 pounds per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.2.2 Particulate Matter less than 10 Microns [326 IAC 2-8][326 IAC 2-2]

Pursuant to 326 IAC 2-8 (FESOP) and 326 IAC 2-2 (Prevention of Significant Deterioration), the baghouse controlling the shotblast operation shall be in operation at all times and the PM10 emissions from the shotblasting process shall not exceed 0.61 pound per hour. This emission limit is necessary to limit the total source wide PM10 emissions to 8.25 tons per month. Compliance with this condition will render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) and 326 IAC 2-7 (Part 70 Permits), not applicable.

D.2.3 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility and its control device.

Compliance Determination Requirements

D.2.4 Testing Requirements [326 IAC 2-8-5(a)(1), (4)][326 IAC 2-1.1-11]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the PM and PM10 limits specified in Conditions D.2.1 and D.2.2 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.2.5 Particulate Matter (PM)

The baghouse for PM control shall be in operation and control emissions from the shotblasting operations at all times that the shotblasters are in operation.

Compliance Monitoring Requirements [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]

D.2.6 Visible Emissions Notations

(a) Visible emission notations of the baghouse A stack exhaust shall be performed once per shift during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

D.2.7 Parametric Monitoring

The Permittee shall record the total static pressure drop across the baghouse used in conjunction with the shotblasting operation, at least once per shift when the shotblasters are in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the baghouse shall be maintained within the range of 4.0 and 5.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge Specifications, of this permit, shall be subject to approval by IDEM, OAM, and shall be calibrated at least once every six (6) months.

D.2.8 Baghouse Inspections

An inspection shall be performed each calender quarter of all bags controlling the shotblasting operation when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting indoors. All defective bags shall be replaced.

D.2.9 Broken or Failed Bag Detection

In the event that bag failure has been observed:

(a) The affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan

shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

(b) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Record Keeping and Reporting Requirement [326 IAC 2-8-4(3)] [326 IAC 2-8-16]

D.2.10 Record Keeping Requirements

(a) To document compliance with Condition D.2.6, the Permittee shall maintain records of visible emission notations of the baghouse A stack exhaust once per shift.

(b) To document compliance with Condition D.2.7, the Permittee shall maintain the following:

(1) Daily records of the following operational parameters during normal operation when venting to the atmosphere:

(A) Inlet and outlet differential static pressure; and

(B) Cleaning cycle: frequency and differential pressure.

(2) Documentation of all response steps implemented, per event .

(3) Operation and preventive maintenance logs, including work purchases orders, shall be maintained.

(4) Quality Assurance/Quality Control (QA/QC) procedures.

(5) Operator standard operating procedures (SOP).

(6) Manufacturer's specifications or its equivalent.

(7) Equipment "troubleshooting" contingency plan.

(8) Documentation of the dates vents are redirected.

(c) To document compliance with Condition D.2.8, the Permittee shall maintain records of the results of the inspections required under Condition D.2.8 and the dates the vents are redirected.

(d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

SECTION D.3 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

the Slinger pouring/casting, cooling and shakeout processes with a maximum capacity of 3.6 tons of iron per hour, the Basin pouring/casting, cooling and shakeout processes with a maximum capacity of 0.6 tons of iron per hour, and the British pouring/casting, cooling and shakeout processes with a maximum capacity of 1.8 tons of iron per hour
(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.3.1 Particulate Matter (PM) [326 IAC 6-3]

Pursuant to 326 IAC 6-3 (Process Operations), the following shall apply:

(a) The allowable PM emission rate from the pouring/casting process (total for all three systems) shall not exceed 13.62 pounds per hour when operating at a process weight rate of 12,000 pounds per hour.

(b) The allowable PM emission rate from the castings cooling process (total for all three systems) shall not exceed 13.62 pounds per hour when operating at a process weight rate of 12,000 pounds per hour.

(c) The allowable PM emission rate from the castings shakeout process (including all three systems) shall not exceed 13.62 pounds per hour when operating at a process weight rate of 12,000 pounds per hour.

The pounds per hour limitations were calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.3.2 Particulate Matter less than 10 Microns [326 IAC 2-8][326 IAC 2-2]

Pursuant to 326 IAC 2-8 (FESOP) and 326 IAC 2-2 (Prevention of Significant Deterioration), the PM10 emissions from the pouring/casting process (total for all three systems) shall not exceed 12.36 pounds per hour. The PM10 emissions from the castings cooling process (total for all three systems) shall not exceed 8.40 pounds per hour. The PM10 emissions from the castings shakeout process (total for all three systems) shall not exceed 13.44 pounds per hour. This condition is necessary to limit the total source wide PM10 emissions to 8.25 tons per month. Compliance with this condition will render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) and 326 IAC 2-7 (Part 70 Permits), not applicable.

Compliance Determination Requirements

D.3.3 Testing Requirements [326 IAC 2-8-5(a)(1), (4)][326 IAC 2-1.1-11]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the PM and PM10 limits specified in Conditions D.3.1 and D.3.2 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

SECTION D.4 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

The return sand handling system with a maximum capacity of 6.68 tons of sand per hour, controlled by baghouse B; and

one (1) no-bake sand reclamation system, with a maximum sand throughput of 10 tons per hour, with particulate matter emissions controlled by the existing dust collector, identified as Baghouse B, exhausting through one (1) stack, identified as Stack B.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emissions Limitations and Standards [326 IAC 2-8-4(1)] [326 IAC 6-3]

D.4.1 Particulate Matter [326 IAC 6-3]

(a) Pursuant to 326 IAC 6-3 (Process Operations), the particulate matter emissions from the return sand system shall not exceed 14.62 pounds per hour when operating at a process weight rate of 13,340 pounds per hour.

(b) Pursuant to 326 IAC 6-3 (Process Operations), the particulate matter emissions from the sand reclamation system shall not exceed 19.18 pounds per hour when operating at a process weight rate of 20,000 pounds per hour.

The pounds per hour limitations were calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.4.2 Particulate Matter less than 10 Microns [326 IAC 2-8][326 IAC 2-2]

(a) Pursuant to 326 IAC 2-8 (FESOP) and 326 IAC 2-2 (Prevention of Significant Deterioration), the PM10 emissions from the return sand system shall not exceed 0.21 pounds per hour and the PM10 emissions from the sand reclamation system shall not exceed 0.32 pounds per hour. These limits are necessary to limit the total source wide PM10 emissions to 8.25 tons per month. Compliance with this condition will render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) and 326 IAC 2-7 (Part 70 Permits), not applicable.

(b) The PM emissions from the sand reclamation system shall not exceed 5.48 pounds per hour. This limit will render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable.

D.4.3 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of

this permit, is required for this facility and its control device.

Compliance Determination Requirements

D.4.4 Testing Requirements [326 IAC 2-8-5(a)(1), (4)][326 IAC 2-1.1-11]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the PM and PM10 limits specified in Conditions D.4.1 and D.4.2 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.4.5 Particulate Matter (PM)

The baghouse for PM control shall be in operation and control emissions from the return sand system and the sand reclamation system at all times that the return sand system and the sand reclamation system are in operation.

Compliance Monitoring Requirements [326 IAC 2-8-5(a)(1)]

D.4.6 Parametric Monitoring

The Permittee shall record the total static pressure drop across baghouse B used in conjunction with the return sand system and the sand reclamation system, at least once per shift when the return sand system or the sand reclamation system is in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the baghouse shall be maintained within the range of 4.0 and 5.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge Specifications, of this permit, shall be subject to approval by IDEM, OAM, and shall be calibrated at least once every six (6) months.

D.4.7 Visible Emissions Notations

(a) Visible emission notations of the baghouse B stack exhaust shall be performed once per shift during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

D.4.8 Baghouse Inspections

An inspection shall be performed each calender quarter of all bags controlling the sand return system and the sand reclamation system when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting indoors. All defective bags shall be replaced.

D.4.9 Broken or Failed Bag Detection

In the event that bag failure has been observed:

(a) The affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

(b) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

D.4.10 Record Keeping Requirements

(a) To document compliance with Condition D.4.7, the Permittee shall maintain records of visible emission notations of the baghouse B stack exhaust once per shift.

(b) To document compliance with Condition D.4.6, the Permittee shall maintain the following:

(1) Daily records of the following operational parameters during normal operation when venting to the atmosphere:

(A) Inlet and outlet differential static pressure; and

(B) Cleaning cycle: frequency and differential pressure.

(2) Documentation of all response steps implemented, per event .

(3) Operation and preventive maintenance logs, including work purchases orders, shall be maintained.

(4) Quality Assurance/Quality Control (QA/QC) procedures.

(5) Operator standard operating procedures (SOP).

(6) Manufacturer's specifications or its equivalent.

(7) Equipment "troubleshooting" contingency plan.

(8) Documentation of the dates vents are redirected.

(c) To document compliance with Condition D.4.8, the Permittee shall maintain records of the results of the inspections required under Condition D.4.8 and the dates the vents are redirected.

(d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

SECTION D.5 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

Two (2) stand grinders, each with a maximum capacity of 0.75 ton per hour.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.5.1 Particulate Matter (PM) [326 IAC 6-3]

Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the grinding process shall not exceed 5.38 pounds per hour when operating at a process weight rate of 3,000 pounds per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.5.2 Particulate Matter less than 10 Microns [326 IAC 2-8][326 IAC 2-2]

Pursuant to 326 IAC 2-8 (FESOP) and 326 IAC 2-2 (Prevention of Significant Deterioration), the PM10 emissions from the grinding process shall not exceed 0.01 pound per hour. This emission limit is necessary to limit the total source wide PM10 emissions to 8.25 tons per month. Compliance with this condition will render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration), and 326 IAC 2-7 (Part 70 Permits), not applicable.

D.5.3 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility.

Compliance Determination Requirements

D.5.4 Testing Requirements [326 IAC 2-8-5(a)(1), (4)][326 IAC 2-1.1-11]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the PM and PM10 limits specified in Conditions D.5.1 and D.5.2 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

SECTION D.6 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

The core making processes, which includes one (1) Novathane sand mixer with a maximum capacity of 1.5 tons per hour; one (1) Alkyd sand mixer with a maximum capacity of 19.5 tons per hour; one (1) shell core machine with a maximum capacity of 0.085 tons per hour; and one (1) oil sand muller with a maximum capacity of 5.6 tons per hour.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.6.1 Particulate Matter (PM) [326 IAC 6-3]

Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the core making process (including all four lines) shall not exceed 37.02 pounds per hour when operating at a process weight rate of 53,370 pounds per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.6.2 Particulate Matter less than 10 Microns [326 IAC 2-8][326 IAC 2-2]

Pursuant to 326 IAC 2-8 (FESOP) and 326 IAC 2-2 (Prevention of Significant Deterioration), the sand throughput to the core making process shall not exceed 3657 tons per month and the PM10 emissions from the core making process (including all four lines) shall not exceed 14.41 pounds per hour. The limits are necessary to limit the total source wide PM10 emissions to 8.25 tons per month. Compliance with this condition will render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) and 326 IAC 2-7 (Part 70 Permits), not applicable.

Compliance Determination Requirements

D.6.3 Testing Requirements [326 IAC 2-8-5(a)(1), (4)][326 IAC 2-1.1-11]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the PM and PM10 limits specified in Conditions D.6.1 and D.6.2 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

SECTION D.7 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

The charge handling process with a maximum capacity of 6 tons of iron per hour.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.7.1 Particulate Matter (PM) [326 IAC 6-3]

Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the charge handling process (including all four lines) shall not exceed 37.02 pounds per hour when operating at a process weight rate of 53,370 pounds per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.7.2 Particulate Matter less than 10 Microns [326 IAC 2-8][326 IAC 2-2]

Pursuant to 326 IAC 2-8 (FESOP) and 326 IAC 2-2 (Prevention of Significant Deterioration), the PM10 emissions from the charge handling process shall not exceed 2.16 pounds per hour. These limits are necessary to limit the total source wide PM10 emissions to 8.25 tons per month. Compliance with this condition will render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) and 326 IAC 2-7 (Part 70 Permits), not applicable.

Compliance Determination Requirements

D.7.3 Testing Requirements [326 IAC 2-8-5(a)(1), (4)][326 IAC 2-1.1-11]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the PM and PM10 limits specified in Conditions D.7.1 and D.7.2 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

SECTION D.8 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

The ductile iron inoculation process with a maximum capacity of 1 ton of iron per hour.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emissions Limitations and Standards [326 IAC 2-8-4(1)] [326 IAC 6-3]

D.8.1 Particulate Matter

Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the ductile iron inoculation process shall not exceed 4.10 pounds per hour when operating at a process weight rate of 2000 pounds per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.8.2 Particulate Matter less than 10 Microns [326 IAC 2-8][326 IAC 2-2]

Pursuant to 326 IAC 2-8 (FESOP) and 326 IAC 2-2 (Prevention of Significant Deterioration), the amount of iron throughput to the ductile iron inoculation process shall not exceed 283 tons per month and the PM10 emissions from the ductile iron inoculation process shall not exceed 1.80 pound per hour. These limits are necessary to limit the total source wide PM10 emissions to 8.25 tons per month. Compliance with this condition will render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) and 326 IAC 2-7 (Part 70 Permits), not applicable.

Compliance Determination Requirements

D.8.3 Testing Requirements [326 IAC 2-8-5(a)(1), (4)][326 IAC 2-1.1-11]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the PM and PM10 limits specified in Conditions D.8.1 and D.8.2 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

SECTION D.9 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

The mold making process with a maximum capacity of 40 tons of sand per hour.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emissions Limitations and Standards [326 IAC 2-8-4(1)] [326 IAC 6-3]

D.9.1 Particulate Matter

Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the mold making process shall not exceed 42.53 pounds per hour when operating at a process weight rate of 80,000 pounds per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.9.2 Particulate Matter less than 10 Microns [326 IAC 2-8][326 IAC 2-2]

Pursuant to 326 IAC 2-8 (FESOP) and 326 IAC 2-2 (Prevention of Significant Deterioration), the sand throughput to the mold making process shall not exceed 7975 tons per month and the PM10 emissions from the mold making process shall not exceed 21.60 pounds per hour. These limits are necessary to limit the total source wide PM10 emissions to 8.25 tons per month. Compliance with this condition will render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) and 326 IAC 2-7 (Part 70 Permits), not applicable.

Compliance Determination Requirements

D.9.3 Testing Requirements [326 IAC 2-8-5(a)(1), (4)][326 IAC 2-1.1-11]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the PM and PM10 limits specified in Conditions D.9.1 and D.9.2 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

D.9.4 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.9.2 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION

FESOP Quarterly Report

Source Name: Elkhart Foundry and Machine Company, Inc.
Source Address: 318 South Elkhart Avenue, Elkhart, Indiana 46952
FESOP No.: 039-7364-00051
Facility: melting process
Parameter: metal throughput
Limit: 1283 tons of iron melted per month

Year: _____

Month	Material throughput (tons/month)

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION

FESOP Quarterly Report

Source Name: Elkhart Foundry and Machine Company, Inc.
Source Address: 318 South Elkhart Avenue, Elkhart, Indiana 46952
FESOP No.: 039-7364-00051
Facility: ductile iron inoculation
Parameter: iron throughput
Limit: 283 tons of iron inoculated per month

Year: _____

Month	Material throughput (tons/month)

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION

FESOP Quarterly Report

Source Name: Elkhart Foundry and Machine Company, Inc.
Source Address: 318 South Elkhart Avenue, Elkhart, Indiana 46952
FESOP No.: 039-7364-00051
Facility: mold making
Parameter: sand throughput
Limit: 7975 tons per month

Year: _____

Month	Material throughput (tons/month)

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Indiana Department of Environmental Management
Office of Air Management

Addendum to the
Technical Support Document for a Permit Revision to a Federally Enforceable State Operating Permit

Source Name:	Elkhart Foundry and Machine Company, Inc.
Source Location:	318 South Elkhart Avenue, Elkhart, Indiana 46515
County:	Elkhart
SIC Code:	3312
Operation Permit No.:	F 039-7364-00051
Operation Permit Issuance Date:	September 26, 1997
Significant Permit Revision No.:	039-11041-00051
Permit Reviewer:	Trish Earls/EVP

On August 31, 1999, the Office of Air Management (OAM) had a notice published in the Elkhart Truth, Elkhart, Indiana, stating that Elkhart Foundry and Machine Company, Inc. had applied for a Significant Permit Revision to its Federally Enforceable State Operating Permit (FESOP) for the addition of a no-bake sand reclamation system to its gray and ductile iron foundry. The notice also stated that OAM proposed to issue a permit for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

Upon further review, the OAM has decided to make the following revisions to the permit (bolded language has been added, the language with a line through it has been deleted).

1. It is not clear whether or not the 1,283 tons/month metal throughput limit on the Quarterly Report form on page 37 of the FESOP includes or is in addition to the 283 tons/month iron throughput limit on the Quarterly Report form on page 39 of the FESOP. The 1,283 tons/month metal throughput is a limit on the throughput of iron to the melting process in the vertical channel gray iron furnaces and the coreless ductile iron furnace. The 283 tons/month iron throughput limit is a limit on the throughput of iron to the inoculation process. These are two separate limits. Therefore, the limit on the report form on page 37 of the FESOP has been more clearly stated as follows:

Facility:	melting process
Parameter:	metal throughput
Limit:	1283 tons **of iron melted** per month

   The limit on the report form on page 39 of the FESOP has been more clearly stated as follows:

Facility:	ductile iron inoculation
Parameter:	iron throughput
Limit:	283 tons **of iron inoculated** per month

Indiana Department of Environmental Management
Office of Air Management

Technical Support Document (TSD) for a Permit Revision to a Federally Enforceable State Operating Permit

Source Background and Description

Source Name:	**Elkhart Foundry and Machine Company, Inc.**
Source Location:	**318 South Elkhart Avenue, Elkhart, Indiana 46515**
County:	**Elkhart**
SIC Code:	**3312**
Operation Permit No.:	**F 039-7364-00051**
Operation Permit Issuance Date:	**September 26, 1997**
Significant Permit Revision No.:	**039-11041-00051**
Permit Reviewer:	**Trish Earls/EVP**

The Office of Air Management (OAM) has reviewed a revision application from Elkhart Foundry and Machine Company, Inc. relating to the construction of the following emission units and pollution control devices:

(a) one (1) no-bake sand reclamation system, with a maximum sand throughput of 10 tons per hour, with particulate matter emissions controlled by the existing dust collector, identified as Baghouse B, exhausting through one (1) stack, identified as Stack B.

History

On June 7, 1999, Elkhart Foundry and Machine Company, Inc. submitted an application to the OAM requesting to add the above listed equipment to their existing gray and ductile iron foundry. Elkhart Foundry and Machine Company, Inc. was issued a Federally Enforceable State Operating Permit (FESOP) on September 26, 1997. The changes proposed to the FESOP are located at the end of this document.

Enforcement Issue

There are no enforcement actions pending.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (^{0}F)
B	Baghouse B	20	2.5	16,500	125

Recommendation

The staff recommends to the Commissioner that the Significant Permit Revision be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on June 7, 1999.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (2 pages).

Potential To Emit of Modification

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA."

Pollutant	Potential To Emit (tons/year)
PM	157.7
PM-10	23.7
SO_2	0.0
VOC	0.0
CO	0.0
NO_x	0.0

Note: For the purpose of determining Title V applicability for particulates, PM-10, not PM, is the regulated pollutant in consideration.

The above emissions are from the new sand reclamation system only.
There are no HAP emissions from this modification.

(a) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of PM is equal to or greater than 25 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-8-11.1.

Actual Emissions

The following table shows the actual emissions from the source. This information reflects the 1998 OAM emission data.

Pollutant	Actual Emissions (tons/year)
PM	38.15
PM-10	30.46
SO_2	0.06
VOC	7.19
CO	0.26
NO_x	1.27
HAP (Lead)	0.12

Limited Potential to Emit

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units.

	Limited Potential to Emit** (tons/year)						
Process/facility	PM	PM-10	SO_2	VOC	CO	NO_X	HAPs
charge handling	4.62	2.77	0.0	0.0	0.0	0.0	0.046
three (3) vertical channel furnaces	5.40	5.16	0.0	0.0	0.0	0.0	0.315
ductile iron furnace	1.53	1.46	0.0	0.0	0.0	0.0	0.052
pouring/casting	32.34	15.86	0.13	20.9	0.0	0.07	0.893
grinding	0.03	0.03	0.0	0.0	0.0	0.0	0.272
castings cooling	10.78	10.78	0.0	0.0	0.0	0.0	0.0
castings shakeout	24.64	17.25	0.0	0.0	0.0	0.0	0.0
shotblasting	7.79	0.78	0.0	0.0	0.0	0.0	0.017
return sand handling	1.85	1.54	0.0	0.0	0.0	0.0	0.0
mold sand handling*	31.10	25.84	0.0	0.0	0.0	0.0	0.0
core making	14.26	11.85	0.0	0.0026	0.0	0.0	1.21
magnesium treatment (inoculation)	3.06	3.06	0.0	0.01	0.0	0.0	0.037
unpaved roads	1.22	1.22	0.0	0.0	0.0	0.0	0.0
new sand reclamation***	24.00	1.41	0.0	0.0	0.0	0.0	0.0
Total Emissions	162.62	99.00	0.13	20.91	0.0	0.07	2.84

* Mold Sand Handling includes emissions from the Alkyd Sand Mixer, Novathane Sand Mixer, Shell Sand Handling, and the Oil Sand Muller.
** The revised limited PTE (revised from F039-7364-00051) for the above facilities are based on the reduced limited throughputs of metal melted, ductile iron inoculated, and sand for mold making of 1283, 283, and 7975 tons per month, respectively (reduced from 1296, 296, and 8333 tons per month, respectively).
*** Limited potential PM emissions from the new sand reclamation system represent the maximum allowable PM emissions such that the requirements of 326 IAC 2-2 (PSD) do not apply. Controlled PM emissions from this facility are 9.38 tons per year.

County Attainment Status

The source is located in Elkhart County.

Pollutant	Status
PM-10	attainment
SO_2	attainment
NO_2	attainment
Ozone	maintenance
CO	attainment
Lead	attainment

(a) Volatile organic compounds (VOC) and oxides of nitrogen (NOx) are precursors for the formation of ozone. Therefore, VOC and NO_X emissions are considered when evaluating the rule applicability relating to the ozone standards. Elkhart County has been designated as maintenance attainment for ozone.

Federal Rule Applicability

(a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.

(b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR art 63) applicable to this source.

State Rule Applicability - Entire Source

326 IAC 2-2 (Prevention of Significant Deterioration)

This existing major PSD source is not subject to the requirements of this rule. The dust collector controlling PM and PM10 emissions from the new sand reclamation system shall be in operation at all times that the sand reclamation system is in operation so that the PM and PM10 emissions from this modification (new sand reclamation system) are limited to less than 25 and 15 tons per year, respectively. Therefore, this is a minor modification to a major PSD source.

326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting), because it has the potential to emit more than ten (10) tons per year of VOC and is located in Elkhart County. Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source. The annual statement must be received by April 15 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8)(Emission Statement Operating Year).

326 IAC 2-8 (FESOP)

Pursuant to this rule, the following conditions shall apply:

(a) The amount of metal melted shall not exceed 1,283 tons per month. The PM10 emissions from the melting process shall not exceed 5.16 pounds per hour.

(b) The PM10 emissions from the charge handling process shall not exceed 2.16 pounds per hour;

(c) The PM10 emissions from the pouring/casting process (including all three systems) shall not exceed 12.36 pounds per hour;

(d) The PM10 emissions from the castings cooling process (including all three systems) shall not exceed 8.40 pounds per hour;

(e) The PM10 emissions from the castings shakeout process (including all three systems) shall not exceed 13.44 pounds per hour;

(f) The baghouse shall be in operation at all times when the shotblasting process is in operation and the PM10 emissions shall not exceed 0.61 pound per hour;

(g) The baghouse shall be in operation at all times when the return sand system and the new sand reclamation system are in operation and the PM10 emissions from the return sand system and the new sand reclamation system shall not exceed 0.21 and 0.32 pounds per hour;

(h) The PM10 emissions from the grinding process shall not exceed 0.01 pound per hour;

(i) The amount of ductile iron inoculated shall not exceed 283 tons per month and the PM10 emissions from the ductile iron inoculation process shall not exceed 1.80 pounds per hour;

(j) The amount of sand throughput to the mold making process shall not exceed 7,975 tons per month and the PM10 emissions from the mold making process shall not exceed 21.60 pounds per hour;

(k) The throughput to the core making process shall not exceed 3,657 tons per month and the PM10 emissions from the core making process shall not exceed 14.41 pounds per hour.

These limits are necessary to limit the total particulate matter less than 10 microns (PM10) emissions to 8.25 tons per month. Compliance with this condition will render the requirements of 326 IAC 2-7 (Part 70 Permits) and 326 IAC 2-2 (PSD) not applicable.

The above listed pound per hour PM10 emission limits were calculated as follows:

Charging, Melting, Pouring, Castings Cooling and Shakeout, and Shotblasting

15,400 tons iron per year limited ÷ 6 tons per hour max. capacity = 2,566 hours per year

Example for melting:
6.62 tons PM10 per year ÷ 2,566 hours/year x 2000 lbs/ton = 5.16 pounds per hour
Note: melting operation includes emissions from the three (3) vertical channel furnaces and the one (1) ductile iron furnace. Also, the limited metal throughput is being revised by this Significant Permit Revision from 1,296 tons per month to 1,283 tons per month.

Grinding

13,140 tons iron per year ÷ 1.5 tons per hour max. capacity = 8,760 hours per year

0.03 ton PM10 per year ÷ 8,760 hours/year x 2000 lbs/ton = 0.01 pound per hour

Ductile Iron Inoculation

3,400 tons iron per year limited ÷ 1 ton per hour max. capacity = 3,400 hours per year

3.06 tons PM10 per year ÷ 3,400 hours/year x 2000 lbs/ton = 1.80 pounds per hour
Note: The limited metal throughput to the inoculation process is being revised by the Significant Permit Revision from 296 tons per month to 283 tons per month.

Mold Sand Handling

95,700 tons sand per year limited ÷ 40 tons per hour max. capacity = 2,392 hours per year

25.84 tons PM10 per year ÷ 2,392 hours/year x 2000 lbs/ton = 21.60 pounds per hour
Note: The limited sand throughput to the mold making process is being revised by the Significant Permit Revision from 8,333 tons per month to 7,975 tons per month.

Core Making

43,885 tons sand per year limited ÷ 26.69 tons per hour max. capacity = 1,644 hours per year

11.85 tons PM10 per year ÷ 1,644 hours/year x 2000 lbs/ton = 14.41 pounds per hour

326 IAC 5-1 (Visible Emissions Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

326 IAC 6-4 (Fugitive Dust Emissions)

This source is subject to 326 IAC 6-4 for fugitive dust emissions. Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions), fugitive dust shall not be visible crossing the boundary or property line of a source. Observances of visible emissions crossing property lines may be refuted by factual data expressed in 326 IAC 6-4-2 (1), (2), or (3).

State Rule Applicability - Individual Facilities

326 IAC 6-3-2 (Process Operations)

The particulate matter (PM) from the new sand reclamation system shall not exceed 19.18 pounds per hour, when operating at a process weight rate of ten (10) tons per hour, based on the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

The baghouse B shall be in operation at all times the sand reclamation system is in operation, in order to comply with this limit. See Appendix A, page 1 of 2 for a detailed compliance calculation.

Compliance Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAM, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance monitoring requirements applicable to this source are as follows:

1. The baghouse B, which controls particulate matter emissions from the sand reclamation system, has applicable compliance monitoring conditions as specified below:

   (a) Visible emissions notations of the baghouse B stack exhaust shall be performed once per shift during normal daylight operations. A trained employee will record whether emissions are normal or abnormal. For processes operated continuously "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Preventive Maintenance Plan for this unit shall contain troubleshooting contingency and corrective actions for when an abnormal emission is observed.

   (b) The Permittee shall record the total static pressure drop across the baghouse controlling the sand reclamation system, at least once per shift when the sand reclamation system is in operation. Unless operated under conditions for which the Preventive Maintenance Plan specifies otherwise, the pressure drop across the baghouse shall be maintained within the range of 4.0 to 5.0 inches of water or a range established during the latest stack test. The Preventive Maintenance Plan for this unit shall contain troubleshooting contingency and corrective actions for when the pressure reading is outside of the above mentioned range for any one reading.

   These monitoring conditions are necessary because the baghouse for the sand reclamation system must operate properly to ensure compliance with 326 IAC 6-3 (Process Operations) and 326 IAC 2-8 (FESOP) and to avoid the requirements of 326 IAC 2-2 (PSD).

Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 188 hazardous air pollutants (HAPs) set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) Part 70 Application Form GSD-08.

None of the listed air toxics will be emitted from this modification.

Changes Proposed

The following changes have been made to the FESOP (F039-7364-00051) with additions in bold and deletions in strikeout:

(a) The following text, which will precede condition A.1, will be added and reads as follows:

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

(b) Condition A.1 will be revised as follows:

A.1 General Information **[326 IAC 2-8-3(b)]**

The Permittee owns and operates a gray and ductile iron foundry.

Responsible Official:	James E. Patterson
Source Address:	318 South Elkhart Avenue, Elkhart, IN 46515
Mailing Address:	P.O. Box 320, Elkhart, IN 46515
Phone Number:	**219-294-2591**
SIC Code:	3321
County Location:	Elkhart
County Status:	Attainment for all criteria pollutants
Source Status:	**Federally Enforceable State Operating Permit (FESOP)** Major Source, under PSD Rules; ~~Synthetic Minor Source, Part 70 Permit Program~~

(c) Condition A.2
The listing of emission units will be modified as follows:

A.2 Emission Units and Pollution Control **Equipment** Summary **[326 IAC 2-8-3(c)(3)]**

This stationary source consists of the following emission units and pollution control devices:

(a) three (3) vertical channel furnaces, each with a maximum capacity of 2.5 tons of iron per hour;

(b) one (1) charge handling system for the furnaces, with a maximum capacity of 6.0 tons of iron per hour;

(c) one (1) coreless ductile iron furnace, used for the production of ductile iron, with a maximum capacity of 1 ton of iron per hour;

(d) one (1) ductile iron inoculation process with a maximum capacity of 1 ton of iron per hour;

(e) one (1) Slinger pouring/casting and cooling line, with a maximum capacity of 3.6 tons of iron per hour;

(f) one (1) Slinger castings shakeout process, with a maximum capacity of 3.6 tons of iron per hour;

(g) one (1) Basin pouring/casting and cooling line, with a maximum capacity of 0.6 tons of iron per hour;

(h) one (1) Basin castings shakeout process, with a maximum capacity of 0.6 tons of iron per hour;

(i) one (1) British pouring/casting and cooling line, with a maximum capacity of 1.8 tons of iron per hour;

(j) one (1) British castings shakeout process, with a maximum capacity of 1.8 tons of iron per hour;

(k) one (1) return sand handling system, with a maximum capacity of 6.68 tons of sand per hour, controlled by baghouse B;

(l) one mold sand handling system with a maximum sand handling capacity of 40 tons per hour;

(m) one (1) alkyd sand mixer with a maximum capacity of 19.5 tons of sand per hour;

(n) one (1) Novathane sand mixer with a maximum capacity of 1.5 tons of sand per hour;

(o) one (1) shell core machine with a maximum capacity of 0.085 tons per hour;

(p) shell sand handling with a maximum capacity of 0.085 tons per hour;

(q) one (1) oil sand muller with a maximum capacity of 5.6 tons per hour;

(r) one (1) 96" swing table Wheelabrator shotblast with a maximum capacity of 4.8 tons per hour, controlled by baghouse A;

(s) one (1) 72" swing table Wheelabrator shotblast with a maximum capacity of 1.2 tons per hour, controlled by baghouse A;

(t) two (2) stand grinders, each with a maximum capacity of 0.75 tons per hour;

(u) one (1) no-bake sand reclamation system, with a maximum sand throughput of 10 tons per hour, with particulate matter emissions controlled by the existing dust collector, identified as Baghouse B, exhausting through one (1) stack, identified as Stack B.

(d) All the D sections have been revised to incorporate recent revisions to the Article 2 rules and to reflect the most recent model permit language. In addition to this, further changes made to section D are listed below.

(e) Condition D.1.2 will be revised as follows:

D.1.2 Particulate Matter less than 10 Microns **[326 IAC 2-8][326 IAC 2-2]**

Pursuant to 326 IAC 2-8 (FESOP) and 326 IAC 2-2 (Prevention of Significant Deterioration), the metal throughput to the melting process shall be limited to ~~1296~~ **1283** tons per month. The PM10

emissions from the melting process shall not exceed 5.16 pounds per hour. These limits are necessary to limit the total source wide PM10 emissions to 8.25 tons per month. Compliance with this condition will render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) 326 IAC 2-7 (Part 70 Permits), not applicable.

The reporting form on page 37 of 40 will be revised to show the revised limited throughput.

(f) The Facility Description in Section D.4 will be revised as follows:

Facility Description [326 IAC 2-8-4(10)]:

The return sand handling system with a maximum capacity of 6.68 tons of sand per hour, controlled by baghouse B; **and**

one (1) no-bake sand reclamation system, with a maximum sand throughput of 10 tons per hour, with particulate matter emissions controlled by the existing dust collector, identified as Baghouse B, exhausting through one (1) stack, identified as Stack B.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

(g) Conditions D.4.1 and D.4.2 will be revised as follows:

D.4.1 Particulate Matter **[326 IAC 6-3]**

(a) ~~That~~ **P**ursuant to 326 IAC 6-3 (Process Operations), ~~the baghouse shall be in operation at all times that the return sand system is in operation.~~ the particulate matter emissions **from the return sand system** shall not exceed 14.62 pounds per hour **when operating at a process weight rate of 13,340 pounds per hour.**

(b) Pursuant to 326 IAC 6-3 (Process Operations), the particulate matter emissions from the sand reclamation system shall not exceed 19.18 pounds per hour when operating at a process weight rate of 20,000 pounds per hour.

The pounds per hour limitations were calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10\ P^{0.67}$$

where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.4.2 Particulate Matter less than 10 Microns **[326 IAC 2-8][326 IAC 2-2]**

(a) Pursuant to 326 IAC 2-8 (FESOP) and 326 IAC 2-2 (Prevention of Significant Deterioration), the PM10 emissions **from the return sand system** shall not exceed 0.21 pounds per hour **and the PM10 emissions from the sand reclamation system shall not exceed 0.32 pounds per hour**. These limits are necessary to limit the total source wide PM10 emissions to 8.25 tons per month. Compliance with this condition will render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) **and** 326 IAC 2-7 (Part 70 Permits), not applicable.

(b) The PM emissions from the sand reclamation system shall not exceed 5.48 pounds per hour. This limit will render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable.

(h) The condition originally listed as condition D.4.6 will be re-numbered as condition D.4.3 and will be revised as follows:

D.4.~~6~~**3** Preventive Maintenance Plan **[326 IAC 2-8-4(9)]**

A Preventive Maintenance Plan, in accordance with ~~condition B.13~~ **Section B - Preventive Maintenance Plan**, of this permit, is required for this facility **and its control device**.

(i) A new condition D.4.5 has been added requiring that the baghouses for PM control be in operation at all times that the return sand system and the new sand reclamation system are in operation in order to comply with 326 IAC 6-3-2 and 326 IAC 2-8. The condition will read as follows:

D.4.5 Particulate Matter (PM)

The baghouse for PM control shall be in operation and control emissions from the return sand system and the sand reclamation system at all times that the return sand system and the sand reclamation system are in operation.

(j) Conditions D.4.3 and D.4.4 (now re-numbered as D.4.6 and D.4.7) will be revised as follows:

D.4.~~3~~**6** ~~Pressure Readings~~ **Parametric Monitoring**

The Permittee shall ~~take readings of~~ **record** the total static pressure drop across ~~all baghouses controlling this operation~~ **baghouse B used in conjunction with the return sand system and the sand reclamation system**, at least once per shift when the ~~process is~~ **return sand system or the sand reclamation system is** in operation **when venting to the atmosphere**. Unless operated under conditions for which the ~~Preventive Maintenance Plan~~ **Compliance Response Plan** specifies otherwise, the pressure drop across the baghouse shall be maintained within the range of 4.0 and 5.0 **inches of water** or a range established during the latest stack test. The ~~Preventive Maintenance Plan~~ **Compliance Response Plan** for this unit shall contain troubleshooting contingency and ~~corrective actions~~ **response steps** for when the pressure reading is outside of the above mentioned range for any one reading.

The instrument used for determining the pressure shall comply with ~~condition C.9~~ **Section C** - Pressure Gauge Specifications, of this permit, shall be subject to approval by IDEM, OAM, and shall be calibrated at least once every six (6) months.

D.4.~~4~~**7** Visible Emission**s** ~~Observations~~ **Notations**

(a) Visible emission notations of the **baghouse B** stack exhaust shall be performed once per shift ~~when the sand return system is in operation~~. **during normal daylight operations** when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The ~~Preventive Maintenance Plan~~ **Compliance Response Plan** for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

(k) A new condition D.4.8 will be added to Section D.4 requiring baghouse inspections as follows:

D.4.8 Baghouse Inspections

An inspection shall be performed each calender quarter of all bags controlling the sand

return system and the sand reclamation system when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting indoors. All defective bags shall be replaced.

(l) Condition D.4.5 (now re-numbered as D.4.9) will be revised as follows:

D.4.~~5~~**9** Broken ~~Bag~~ or ~~Failure~~ **Failed Bag** Detection

~~That~~ In the event that bag failure has been observed:

(a) The affected compartments will be shut down immediately until the **failed** units have been **repaired or** replaced. **Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).**

(b) ~~Based upon the findings during the bag replacement, any additional corrective actions will be devised within eight (8) hours of discovery and will include a timetable for completion.~~ **For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).**

(m) Condition D.4.7 (now re-numbered as D.4.10) will be revised as follows:

D.4.~~7~~**10** Record Keeping Requirements

~~That the Permittee shall maintain records of baghouse preventive maintenance, parametric monitoring data, visible emissions observations, and all corrective actions taken and the outcome from each. These records shall be made available upon request of the Office of Air Management (OAM) staff.~~

(a) To document compliance with Condition D.4.7, the Permittee shall maintain records of visible emission notations of the baghouse B stack exhaust once per shift.

(b) To document compliance with Condition D.4.6, the Permittee shall maintain the following:

(1) Daily records of the following operational parameters during normal operation when venting to the atmosphere:

(A) Inlet and outlet differential static pressure; and

(B) Cleaning cycle: frequency and differential pressure.

(2) Documentation of all response steps implemented, per event .

(3) Operation and preventive maintenance logs, including work purchases orders, shall be maintained.

(4) Quality Assurance/Quality Control (QA/QC) procedures.

(5) Operator standard operating procedures (SOP).

(6) Manufacturer's specifications or its equivalent.

(7) Equipment "troubleshooting" contingency plan.

(8) Documentation of the dates vents are redirected.

(c) To document compliance with Condition D.4.8, the Permittee shall maintain records of the results of the inspections required under Condition D.4.8 and the dates the vents are redirected.

(d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

(n) Condition D.8.2 will be revised as follows:

D.8.2 Particulate Matter less than 10 Microns **[326 IAC 2-8][326 IAC 2-2]**

Pursuant to 326 IAC 2-8 (FESOP) and 326 IAC 2-2 (Prevention of Significant Deterioration), the amount of iron throughput to the ductile iron inoculation process shall not exceed ~~296~~ **283** tons per month and the PM10 emissions from the ductile iron inoculation process shall not exceed 1.80 pound per hour. These limits are necessary to limit the total source wide PM10 emissions to 8.25 tons per month. Compliance with this condition will render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) **and** 326 IAC 2-7 (Part 70 Permits), not applicable.

The reporting form on page 39 of 40 will be revised to show the revised limited throughput.

(o) Condition D.9.2 will be revised as follows:

D.9.2 Particulate Matter less than 10 Microns **[326 IAC 2-8][326 IAC 2-2]**

Pursuant to 326 IAC 2-8 (FESOP) and 326 IAC 2-2 (Prevention of Significant Deterioration), the sand throughput to the mold making process shall not exceed ~~8333~~ **7975** tons per month and the PM10 emissions from the mold making process shall not exceed 21.60 pounds per hour. These limits are necessary to limit the total source wide PM10 emissions to 8.25 tons per month. Compliance with this condition will render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) **and** 326 IAC 2-7 (Part 70 Permits), not applicable.

The report form on page 40 of 40 will be revised to show the revised limited throughput.

Conclusion

The construction and operation of this sand reclamation system shall be subject to the conditions of the attached proposed **Significant Permit Revision No. 039-11041-00051**.

Appendix A: Grey Iron Foundry Operations

Company Name: Elkhart Foundry & Machine Company, Inc.
Address City IN Zip: 318 South Elkhart Avenue, Elkhart, Indiana 46515
Significant Source Mod. No.: 039-11041
Plt ID: 039-00051
Reviewer: Trish Earls
Date: June 7, 1999

SCC# 3-04-003-50
Sand Reclamation

TYPE OF MATERIAL	Throughput LBS/HR	Throughput TON/HR	Control Device:	Control Efficiency:
Sand	205000	10	Dust Collector B	94.05%

	PM lbs/ton sand handled 3.6	PM10 lbs/ton sand handled 0.54	SOx lbs/ton sand handled 0.0	NOx lbs/ton sand handled 0.0	VOC lbs/ton sand handled 0.0	CO lbs/ton sand handled 0.0	Lead lbs/ton sand handled 0.0
Potential Uncontrolled Emissions lbs/hr	36.0	5.4	0.0	0.0	0.0	0.0	0.0
Potential Uncontrolled Emissions lbs/day	864.0	129.6	0.0	0.0	0.0	0.0	0.0
Potential Uncontrolled Emissions tons/year	**157.7**	**23.7**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Potential Controlled Emissions lbs/hr	2.1	0.3	0.0	0.0	0.0	0.0	0.0
Potential Controlled Emissions lbs/day	51.4	7.7	0.0	0.0	0.0	0.0	0.0
Potential Controlled Emissions tons/year	**9.4**	**1.4**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Note: Emission factors from USEPA's FIRE version 5.0 Source Classification Codes and Emission Factor Listing for Criteria Air Pollutants, August 1995.

326 IAC 6-3-2 (Process Operations) Compliance Calculation

The following calculations determine compliance with 326 IAC 6-3-2 for process weight rates up to 30 tons per hour:

limit = 4.1 * (10 ^ 0.67) = 19.18 lb/hr or
84.00 ton/yr

Since controlled PM emissions are less than 19.18 lbs/hr, this operation is in compliance with the rule.

Appendix A: Emission Calculations for FESOP Limits

Company Name: Elkhart Foundry & Machine Company, Inc.
Address City IN Zip: 318 South Elkhart Avenue, Elkhart, Indiana 46515
Significant Source Mod. No.: 039-11041
Plt ID: 039-00051
Reviewer: Trish Earls
Date: June 7, 1999

Facility	Limited Metal Througput per FESOP 039-7364 (tons/yr)	Limited Sand Througput per FESOP 039-7364 (tons/yr)	Control Efficiency (%)	PM Emission Factor (lb PM/ton)	PM10 Emission Factor (lb PM10/ton)	Controlled/Limited PM Emissions (tons/yr)	Controlled/Limited PM10 Emissions (tons/yr)
Charge Handling*	15,400	N/A	0.00%	0.60	0.36	4.62	2.77
Vertical Channel Furnace #1	6,000	N/A	0.00%	0.90	0.86	2.70	2.58
Vertical Channel Furnace #2	6,000	N/A	0.00%	0.90	0.86	2.70	2.58
Vertical Channel Furnace #3	0	N/A	0.00%	0.90	0.86	0.00	0.00
Ductile Iron Furnace**	3,400	N/A	0.00%	0.90	0.86	1.53	1.46
Pouring/Casting*	15,400	N/A	0.00%	4.20	2.06	32.34	15.86
Grinding	13,140	N/A	0.00%	0.0045	0.0045	0.03	0.03
Casting Cooling*	15,400	N/A	0.00%	1.40	1.40	10.78	10.78
Casting Shakeout*	15,400	N/A	0.00%	3.20	2.24	24.64	17.25
Shotblasting*	15,400	N/A	94.05%	17.00	1.70	7.79	0.78
Return Sand Handling***	N/A	95,700	94.05%	0.65	0.54	1.85	1.54
Mold Sand Handling***	N/A	95,700	0.00%	0.65	0.54	31.10	25.84
Core Making****	N/A	43,885	0.00%	0.65	0.54	14.26	11.85
Magnesium Treatment**	3,400	N/A	0.00%	1.80	1.80	3.06	3.06
Unpaved Roads	N/A	N/A	0.00%	N/A	N/A	1.22	1.22
					Subtotal:	138.62	97.60
New Sand Reclamation System	N/A	87,600	94.05%	3.60	0.54	9.38	1.41
					Source-wide Total Emissions:	148.01	99.00

* Limited throughput of metal melted has been changed from 1296 tons/month to 1283 tons/month.
** Limited throughput of iron inoculated has been changed from 296 tons/month to 283 tons/month.
*** Limited throughput of mold making sand has been changed from 8333 tons/month to 7975 tons/month.
**** Core making includes emissions from the Alkyd Sand Mixer, Novathane Sand Mixer, Shell Sand Handling, and the Oil Sand Muller.